

HAND BOOK  
TO THE  
CLIFTON & BRISTOL  
HOT-WELLS.

1/-

WITH SECTION OF THE ROCKS  
1/6

*Elmer*

THE HAND BOOK  
FOR  
VISITORS TO THE BRISTOL & CLIFTON HOTWELLS;  
(ILLUSTRATED BY PLATES,)  
CONTAINING  
A Chemical Analysis of the Spa,  
BY W. HERAPATH, Esq.,  
ALSO,  
OBSERVATIONS ON ITS INTERNAL AND EXTERNAL USES,  
TO WHICH ARE ADDED  
A GEOLOGICAL SKETCH OF THE AVON DISTRICT,  
BY R. ETHERIDGE, Esq.,  
(CURATOR OF THE BRISTOL INSTITUTION)  
AND  
BOTANICAL NOTICES BY A LOCAL BOTANIST.

COMPILED AND ANNOTATED  
BY AN OLD OBSERVER.

"O Fons Blandusiae, splendidior vitro,  
Dulci digne mero, non sine floribus."  
HOR.

BRISTOL: CHILCOTT. CLIFTON: BURBIDGE.

WESTON-SUPER-MARE: WHEREAT.

? 1853 or later

BRISTOL:—R. W. SMITH, PRINTER.

# THE HAND BOOK

FOR

Visitors to the Bristol & Clifton Bathwells.

## THE HOTWELL SPA.

THE long celebrated thermal spring of Clifton issues from the base of St. Vincent's Rocks, at a spot which has hence been named the Hot-wells. The adjacent scenery is eminently beautiful, comprising magnificent cliffs, noble woods, exhilarating downs, verdant and bowery meadows, and the winding Avon with its shipping, skirted by banks populous with visitors, especially during the tides.

The natural gush of this fine spring is at the rate of 60 gallons per minute, or a gallon in every second. The majestic defile out of which it issues, offers a great deal to interest the geologist, as well as the eye of taste.\*

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\*An interesting sketch of the Geology of the district, from the well qualified pen of the Curator of the Bristol Institution, will be found in an appendix.

It was certainly a misnomer to call this Spa "the Hot-wells," for its temperature does not equal that of the human body, by many degrees: but the name was, probably, bestowed simply to distinguish it from cold water.

Its thermal character is, however, not only very palpable, but worthy of attentive consideration, as indicating its subterranean course amidst evolutions of volcanic heat, the precise origin of which cannot be ascertained. It should also be borne in mind, that certain volatile particles, important, if not essential, to the medicinal action of the water, are wholly dissipated when it is suffered to grow cold in an open vessel. When firmly corked immediately on being bottled, these particles are preserved uninjured, and in this way a large quantity is annually exported.

Dr. Granville\* in his interesting work on "the Spas of England," (published 1841.) estimates that the Hot-well water contains "at least 26 degrees of volcanic heat, in addition to the ordinary degree of heat, which marks the temperature of ordinary water, in relation to the surrounding atmosphere." This scientific physician immediately adds, "and according to my theory, even 26 degrees of such

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\*Author of "Popular Considerations on the use and power of mineral waters."

heat is worth a whole steamer of artificial heat, in the cure of diseases."

The temperature of the Hot-well Spa, is uniformly 76° on issuing from the pump, and cannot offend the most irritable stomach, being in fact, 23° cooler than milk when newly taken from the cow. A fresh drawn glassfull presents a sparkling crystalline aspect, which is very inviting. The numerous gaseous bubbles communicate a peculiar pearly appearance to the water, which disappears as it cools, and which no degree of heat will again produce. This fact clearly indicates the presence of a subtle principle, not in any degree restorable without chemical elaboration, and probably important to the virtue of the Spa: it is therefore desirable to drink it quite fresh from the pump, which can be done only upon the spot. Thus taken, it is brisk and soft to the palate, grateful to the stomach, wholly free from odour, quenching thirst, and cooling the system. It leaves a slightly stiptic impression on the palate, by no means unpleasant; and though too hard for the purposes of the laundress, has the remarkable quality of making excellent tea. Some experienced tea makers assert, that two thirds of the usual allowance of leaf are sufficient, when watered from this spring.

The chemical components of an imperial

gallon of the Hot-well water, as analysed by the celebrated chemist, Wm. Herapath, Esq. are given in the following table.

	CUBIC INCHES.
Carbonic Acid Gas .. ..	8.75
Nitrogen Gas .. ..	6.56
SOLID MATTERS.	GRAINS.
Chloride of Magnesium .. ..	2.180
Nitrate of Magnesia .. ..	2.909
Chloride of Sodium .. ..	5.891
Sulphate of Soda .. ..	3.017
Sulphate of Magnesia .. ..	1.267
Carbonate of Lime .. ..	17.700
Carbonate of Magnesia .. ..	.660
Carbonate of Iron .. ..	.103
Bitumen .. ..	.150
Sulphate of Lime .. ..	9.868
Silica .. ..	.270
Grains.....	44.015

Holding in solution or suspension, neither animal, vegetable, nor sulphurous particles, this water is incapable of taint from long keeping, and is consequently much valued for exportation, in properly secured bottles. The best method of drinking the bottled water, is to place the bottle (previously uncorked) in a pan of equal depth, and then surround it with boiling water, quite up to the neck. A few minutes will suffice to communicate the natural degree of heat; thus rendering the

draught more palatable, and also eliciting its medicinal virtue in a more active form.

Dr. John Rutty, an eminent physician of Dublin, in his elaborate "Synopsis of mineral waters," (published 1757,) has the following observation to this point. "That this water may be drank at great distances from the fountain with good effect, as a sweetening, drying, and healing medicine, *being first warmed to the same degree of heat as at the well*, is found by experience; and in order that its virtue may be preserved, it is ordered to be kept warm and dry, and not in cellars, all cold and damp injuring its virtues."—[Synopsis, p. 617.]

Numerous authors, at various periods, have made the Bristol Spa their theme, and enlarged on its efficacy in various diseases, according to their own observations, or the reports of others. The most ancient record of this spring, is that of William Wyrcester, in 1480. Tradition attributes its original discovery to sailors, who had contracted scurvy from long voyages, and found themselves benefitted by drinking freely, and washing in the water, whose fresh stream was likely to attract their notice, when navigating the river. Some public spirited persons made a reservoir of brick-work, paved at the bottom, for the

greater convenience of frequenters; and till the beginning of the 17th century, no further attention appears to have been bestowed upon it. In 1695 the old Hot-well house was built by some enterprising citizens, under a lease from the Merchant Venturers of the port, and they erected pumps and baths, which however, were approachable only by foot passengers, and being close to the river, the only access to St. Vincents Rocks was through the house. No horse or carriage way existed between this spot and Rownham ferry, till 1661; but when the old building was demolished, a fine carriage road was formed along the margin of the river, and up the acclivity to Clifton down.

The present Hot-well house stands immediately behind the site of its predecessor, and is a handsome building of the Tuscan order, replete with all appropriate conveniences.

The earliest medical writer on this Spa, appears to be Dr. Edward Jordan of Bath, in 1632; but, however well acquainted he might have been with the thermal springs of his own city, he betrays a most superficial knowledge of his subject. Two years subsequently, Dr. Thomas Johnson, the first botanist of his age, says in his *Mercurius Botanicus*, speaking of the Hot-wells, "from the clefts of the rocks issues forth a spring

of warm water, pleasant to the taste: it is a water of some repute, and much commended for ulcerous and calculous affections of the kidneys, taken inwardly, and for old sores applied outwardly. It is in pretty frequent use, and not without success, as I am informed by those who have experienced it."\* In 1750, Dr. George Randolph, a local practitioner in high repute, published an octavo of 176 pages, devoted to the properties of this water, and distinguished by candour, as well as research. Medical science, advancing from period to period, has gradually thrown off prejudices, corrected errors, and achieved much experimental knowledge; thus exaggerated and contradictory attributes have ceased to be applied to these waters, whilst their actual properties are better understood, and brought into beneficial notice. The general results are in favour of its remedial action, in many forms of disease, employed either specifically, or in connexion with pharmaceutical medicine. Amongst the leading maladies to which it is applicable, may be enumerated, weakness and irritability of the pulmonary vessels, uterine and other haemorrhages, sterility

\* Dr. Johnson was the Editor of an improved edition of Gerard's Herbal, and published the first local catalogue of English Plants. He died in 1644, of a wound received at the siege of Basing House, Hants.

in either sex, chronic diarrhoea, mild forms of dysentery, mucous discharges, disorders of the bladder and kidneys, dyspepsia, impeded respiration, scorbutic eruptions; and, to speak generally, all affections marked by functional debility, and febrile symptoms of the hectic type. In that distressing and exhausting malady diabetes, the Hot-well water was formerly extolled as a specific; and though its effects may have been exaggerated, there is reason to believe it has great practical value in this disorder, when employed in free dietetic combination with medical prescriptions. Its salutary action upon the renal secretions, is highly spoken of by gentlemen who have long resorted to this Spa, and who still fly to it as their best friend, in nephritic or vesical irritation, taking it internally, and using the bath at a temperature between 90° and 100°. Externally applied, it is found beneficial in inflammation of the eyes, and as a wash for ulcers and pimples.

It may interest the enquirer, to quote Dr. Randolph's account of the original employment of this Spa, as a remedy in diabetes. "It happened about the year 1680, that two or three persons of note in Bristol died of this distemper; the physicians acknowledging and bewailing the inefficiency of their art in

such manner, that it was looked upon by everybody to be incurable; one Mr. William Gage, a baker, who lived in Castle Street, being seized with it, was accordingly despaired of by all who knew him, but dreaming one night that he drank plentifully of the Hot-well water, and was wonderfully refreshed by it, he was much inclined the next morning to quench his thirst with it, and found it to answer his wish so effectually, that, by continuing the use of it, in a few days he came abroad, gathered flesh and strength daily, and recovered to the great surprise of everybody that knew him." [Randolph's *Enquiry into the medicinal virtues of Bristol Water*, p. 15.]

Every candid practitioner will acknowledge, that the Hot-well Spa has rarely been resorted to in consumptive cases, till the patient has sunk below the reach of curative treatment. Sent here, as a forlorn hope, when all professional advice has been exhausted, how many gentle victims to phthisis have reached the fount, merely to expend whatever yet lingered of the *vis vitæ*! They have in truth but

"bowed to taste the wave, and died!"

Yet we may venture to believe, that many a fondly cherished life might have been prolonged, by a *timely* resort to the salubrious

water, mild atmosphere, and sheltered abodes of the Hot-wells. To cure such patients as have, from time to time, been brought hither, in the most deplorable stage of this malady, would have demanded a miracle. All that human science can offer, is accessible on the spot, in well qualified and experienced practitioners, second to none in the kingdom; whilst comfortable accommodation, whether in private lodging houses, or well appointed hotels, is readily obtained at reasonable charges. Walks and rides of singular beauty abound in the immediate vicinity; respectable carriages, good horses, and careful drivers, are always at hand; and aquatic excursions to Portishead, Chepstow, or other attractive watering places on either coast of the Bristol Channel, are invited by excellent steam boats, whose commanders are both skilful and obliging.

In fine summer weather, short maritime trips, unattended by fatigue, amidst ambient breezes fresh from the ocean, and terminating in voluptuous scenery, are invaluable auxiliaries to the invalid.

As regards the selection of a spot, for temporary or permanent residence; those who require a bracing atmosphere, and whose lungs are perfectly sound, will find advantages in the higher parts of Clifton. To hectic and

pulmonic valetudinarians, the lower ranges of buildings are recommended: St. Vincent's Parade, Ashton Place, Dowry Square and Parade, Albemarle Row, Cumberland Place, Freeland Place, and other respectable localities on about the same level, will be found well adapted to such patients. Physicians often order patients "to Clifton," without reflecting that this ancient opulent village has grown into the most extensive suburb of Bristol, affording from its greatly varying elevations, very distinct atmospheric temperatures. Delicate persons, who have been troubled with cough and dyspnoea, whilst living on the hill, have found the symptoms abate immediately, on removing into the region of the Hotwells.

The Spa season is from May to October; the summer months giving the advantage of air, exercise, and recreation, as important concomitants; though the temperature of the spring is unchanged throughout the year.

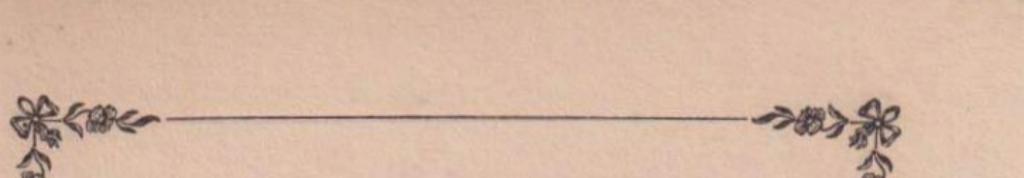
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### RULES FOR DRINKING.

The Spa acts with most effect when taken fasting. A single tumbler of the water may be drunk at pleasure, taking exercise between each repetition. After the proper quantity, it may be useful to walk for an hour before eating

food. In irritable habits, the water should not be drunk too quickly, the doses smaller, and repeated at longer intervals, or diluted with milk warmed.

Much difference of opinion has arisen upon the absolute quantity which a patient ought to take daily. This must depend upon the stimulating effects of the water, and the object the practitioner has in view. Its use, however, should be commenced gradually; not more than from two to four tumblers daily, which may be increased to twelve, with regular exercise, if the patient be not very weak. The quantity must not be increased, whenever it begins to produce much gastric, cerebral, or pulmonary oppression. The best signs of the quantity agreeing with the system, are a slight increase in the natural evacuations. When the constitution has reached the point of saturation, the dose should not be suddenly left off, but diminished as regularly as it was increased. If taken at a distance from the source, great care is necessary to prevent escape of gaseous matters, or too much exposure to the air: the bottles should be kept well closed, and in a dry place. Every tumbler drunk by a resident, should be drawn fresh from the spring, immediately before use.



## RULES FOR BATHING.

The best time for bathing is in the morning or forenoon; and, if the water is drunk at the same time, after the exercise which ought to follow the latter. The temperature of the water may range from 90° to 98°, or even lower in irritable states of the body. The nearer the bath approaches to blood heat, the better at first; and it may be gradually made cooler when more tonic effects are wished. These baths are considered almost identical in their properties with those of Wildbad, so much celebrated for the silken softness they produce upon the skin.

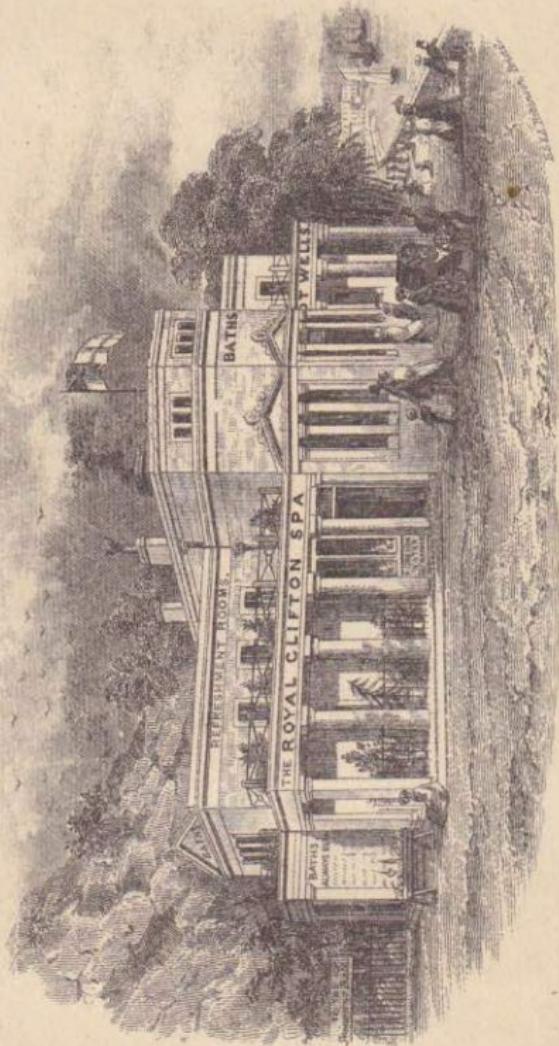
The utmost regularity of habits ought to be observed by invalids, on resorting to a medicinal spring. Without the strictest attention to this, very little benefit can be expected to follow its use; and to the neglect of this, much of the opprobrium thrown upon mineral waters, as medicinal agents, is in all probability to be ascribed.

All the more violent impressions, which tend to ruffle the serenity of the mind, should be carefully avoided; and during the course, it would be well to abstain altogether from the pursuit of the ordinary avocations. The sleeping and walking hours, must be partitioned with the greatest regularity. Late hours are

to be avoided, and all midnight mental exertion,

The present proprietor of the Spa has made extensive improvements, including a spacious tepid swimming bath, (34 feet by 18) elegantly and commodiously fitted up, with select dressing rooms at each end; it is lighted by a glass dome, and is supplied with a constant flow of the Spa water, kept at an agreeable temperature by steam pipes, fixed in the angles round the bottom. The different warm, douche, and vapour baths, have been renovated with every modern appliance for health and luxury; and the whole establishment may challenge comparison with any similar one, on the same scale, whether in convenience, or tasteful decoration. A large refreshment room is provided, having windows that command delightful views of Leigh Woods, St. Vincent's Rocks, and the River. Newspapers lie in the pump room for the use of subscribers to the Spa, where also may be procured, prints, stationery, geological specimens, and other articles of *vertu*. A department for confectionary adjoins on one hand, and another for mineral waters of various kinds, and several ingenious inventions of general utility, responds at the opposite side. No pains have been spared to restore this ancient and really valuable Spa to the





The Royal Clifton Spa, Pump Room, Baths,  
and Mineral, Soated Water Manufactory.  
Hotwells, Bristol.

public favour, and the locality presents every facility for its use. Omnibuses at three-penny fares run between the Hotwells and the City, and in addition to good hotels and lodging houses, there are respectable shops, and a well regulated post-office.

It is curious to trace, in old books, indications of high fashion at the Hotwells, in the reign of our first George. A thin quarto was published in 1723, entitled "Characters at the Hotwells," in which several persons of rank and title are introduced; amongst them is the celebrated Duchess of Marlborough, wife of the great General, who was then in the second year of her widowhood.

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#### GEOLOGICAL SKETCH.

There are few cities whose vicinity affords so much research for the naturalist, and of so varied a character, as the neighbourhood of Bristol; that of Clifton and the Hotwells, in a still more remarkable degree; but it is more especially to the geologist, that Clifton, and the gorge of the Avon, with its majestic walls of limestone bordering the river, and 300 feet in height, will be found attractive.

Those unacquainted or little conversant with the leading features of geology, may be surprised to find that from the summit of St. Vincent's Rocks at the Observatory, may be overlooked an expanse of country made up of no less than seven important geological formations, and all placed in their order of superposition; a study of which will at once instruct the student, as well as afford the highest interest to the more initiated into the laws of this important science.

The grandeur, beauty, and boldness of the scenery of Clifton and its immediate neighbourhood, is due chiefly to the formation on which it stands, viz., the Carboniferous or Mountain Limestone, a series of calcareous rocks, giving rise to the finest scenery throughout England, as the cliffs of Cheddar, Windcliff and the Wye, Blaize heights, and our own inimitable Avon, with its grand and precipitous cliffs, fully attest.

We are not about to describe the geology of the neighbourhood of Bristol, that being a task without the pale of a small handbook, or guide to the Hot-well waters and their medicinal properties, but simply to give somewhat in detail, the true position and relation which the magnificent range of the Limestone series of the Avon defile, has with

the surrounding district, and the Bristol Coal Basin in particular.\*

This range is a series of Marine Limestone Strata, whose geological position is immediately below the coal measures, and above the old Red Sandstone. It is one of the most important calcareous rocks throughout Great Britain and Ireland, both for its extent, the thickness of its beds, the quantity and variety of its organic remains, and richness in metals.

The position then of this formation, so admirably exhibited on the borders of the Avon, and through which the river flows, at once gives a key to those formations immediately above and below this zone of Mountain Limestone; and if we commence with the lowest beds of the Palæozoic series, which are known in the immediate vicinity, the old Red Sandstone, from its prominent position, claims our first attention.

Fortunately the gorge of the Avon affords excellent sections of the old Red Sandstone and Carboniferous Limestone, which have been

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\* All the inclined strata that crop out in this defile, dip in a north-easterly direction at various angles, and are successively and in conformity with the old Red Sandstone, the lower Limestone shales, Carboniferous Limestone, upper Limestone shales, and Millstone Grit, with the Dolomitic Conglomerate, resting unconformably on the older and subjacent formation.

The length of this great section from Cooke's Folly to Windsor Terrace, exceeds a mile and a half.

successively noticed by Dr. Buckland, Mr. Cumberland, Mr. Conybeare, Dr. Bright, and most minutely examined by Mr. Williams, of the geological survey, who has enumerated nearly 600 beds included in the space between Brandon Hill, and the base of the old Red Sandstone, below Cooke's Folly. This superb section exhibits numbers of modifications and changes, which have taken place during the accumulation of this Calcareous formation, the whole thickness of which (from the points before stated) is more than 4000 feet; the Brandon Hill beds, or Farewell Rock being 950 feet, the Carboniferous Limestone, 2338 feet, and an upper portion of the old Red Sandstone here represented, 768 feet.

As before stated, the old Red Sandstone from its position and easy access, will afford the basis on which to elevate the superstructure of the geology of the Avon, commencing from the woody district below Cooke's Folly, or rather from the foot of Snead Park, to the Hotwells, near Windsor Terrace.\*

The beds of this formation may be well examined, and studied to great advantage, immediately below the Folly, dipping at a considerable angle to the eastward, and still lower

\* See geologically coloured section for explanation as to detail and position.

down the river on the opposite side, where an extensive Quarry affords a fine section, with the strata inclining to the same point of the compass. From this Quarry the stone used in constructing the buttresses of the intended Suspension Bridge, was obtained.

The old Red Sandstone is the lowest member of the Carboniferous group of Rocks, and rests upon the Silurian series, which are not visible in the immediate neighbourhood; it consists of many varieties, and alternations of silicious Sandstones and Conglomerates of various hues, red predominating. \*Usually it is composed of fine grains of Quartzose sand, mixed with red clay and mica; the mica when abundant is disposed in rapid alternation with thin laminæ of argillaceous sandstone, producing a fissile character, and here, with the associated rocks, forms the boundary of the Bristol coal basin, which occupies an irregular triangular area, the base of which on the south is the chain of the Mendip Hills, a Limestone Range extending east and west, and resting on the old Red Sandstone. The northern apex of this extensive coal basin is at Tortworth, in Gloucestershire, the western

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\* This formation as developed in Herefordshire, Monmouthshire, and South Wales, is estimated by the Ordnance and Geological survey, at 8000 feet in thickness—we have fine examples of the old Red Sandstone at Portishead.

frontier being continued from the Mendips, underneath Dundry Hill, and through Bristol to this point; then the range is deflected to the south, constituting the eastern frontier of the basin, through Wickwar, Sodbury, Pensford, &c., &c.†

Having thus stated that the old Red Sandstone appears in the gorge of the Avon, and having fixed its position below Cooke's Folly,‡ and that also in considerable thickness; we will now proceed to describe the formations lying immediately above, the beds of which are conformable to the old Red, viz., the Lower Limestone shales, and the Carboniferous or Mountain Limestone series, which here occupy so prominent a position in the local geology.

The lowest beds (the lower limestone shales) which are immediately in contact with the previously described strata, are covered chiefly by the Cooke's Folly Wood, (or the space between the Folly and the lowest beds of

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† It cannot be doubted that the coal districts of Somerset, Gloucestershire, Monmouth and Glamorganshire, though apparently distinct and insulated, are yet connected together by resting on a common base of old Red Sandstone, all appearing to have been formed by similar agency, and at the same era; to have been subject at a later period to the same revolution, and lastly, have been covered partially by similar overlying deposits.

‡ Cooke's Folly is an isolated Tower, situated near the edge of Durdham Down, and probably built merely as a fine look out, though popular tradition attaches a wild legend to it.

the Black Rock Quarry.) These shales consist of a soft argillaceous slaty rock, usually of a dark greenish hue, or nearly black, and are 500 feet in thickness; they form an important feature in the constitution of the Mendip Hills, indicating in their vicinity wet clay in narrow valleys. Immediately resting on these shales, are the lowest members of the Mountain Limestone, admirably exhibited at the Black Rock Quarry so named from the colour of some of the beds of this lower series, and rich in organic remains. These ancient stratified deposits have supplied the richest cabinets of Europe, with their Sauroid, Encrinital, Zoophytic, and Molluscan remains, and much we believe yet exists for the revelation of the Palaeontologist, from these mysterious deposits of an ancient world.

These beds known as the Black Rock, yield to the hammer of the Geologist many Ichthyodorulites, the only fossil remains of several genera of placoid fishes, sauroid in their character, as determined from the nature of the teeth still found, and these reptilian fishes, at no period of the Earth's history, obtained so great a magnitude, or offer such perfect types of their development, as in the early seas of the Carboniferous epoch.

These singular remains are determined to have been the spines, to which were attached the large

dorsal fins of considerable dimensions; in the Australian seas we have still a type of these ancient fishes, and with this peculiarity, in the Cestracion Philippi or Port Jackson shark. Remains of this portion in the Genus *Onchus* and *Ctenacanthus* are found at the Black Rock section, together with the Palates or teeth of several other genera of Placoid fishes; *Psamodus*, *Orodus*, and *Cladotus*. These beds also yield to the Conchologist, Spirifers, Producti and Terebratulæ, with the corals of the period *Lithodendron* and *Cyathophyllum*, in fine preservation.\* But to resume our description of this chain, on which the remarks made, will be chiefly confined to the Clifton side and in the towing path, as it is here that the beds crop out and are therefore best calculated for examination; the Leigh side being much less

\* *Mollusca*.—*Lingula parallela*.—*Spirifer cuspidata*.  
*S. attenuata*.—*S. rhomboidea*.—*Productus martini*.—*P. comoides*.—*Orbicula*.—*Acroculia velusta*.—*Turbo tiara*.—*Turritella*.—*Loxonema rugifera*.—*Belerophon*.—*Nautilus dorsalis*.—*Conularia*.

*Fossil Fish*.—*Ctenacanthus major*.—*C. brevis*.—*Onchus*.

*Fish Palates*.—*Psamodus subteres*, *P. contortus*, *P. larissimus*, *P. porosus*, *P. cinctus*, *P. linearis*, *P. rugosus*, *P. turgidus*.—*Cladodus subulatus*, *C. conicus*.—*Orodus cinctus*, *O. ramosus*.

*Crustacea*.—*Archægonus Phillipsia*.—*A. equalis*.

*Zoophyta*.—*Turbinolia fungites*.—*Cyathophyllum helianthoides*, *C. reguum*, *C. crenulare*.—*Favosites septosa*.—*Lithodendron fasciculata*, *L. dichotomum*, *L. plicatum*, *L. carnea*.

precipitous and covered in great part with luxuriant woods; and again, we purpose describing the series in ascending order. This great Limestone deposit is exhibited in three successive cliffs: the Black Rock, the Great Quarry, and St. Vincent's Rocks, the first of which or the Black Rock, commences at the woody slope of Cooke's Folly, with a well marked Red Encrinite bed for its base, and which may be traced with equal distinctness on the opposite side of the river, the angle of dip of these beds is between  $40^{\circ}$  and  $50^{\circ}$ , terminating at the ravine, winding up towards Durdham Down.\* Immediately beyond, and passing some Cottages, a thermal spring gushes out, close to which what is called the new Hot-well House, or Engine-house has been built, and we have here, immediately beyond, a succession of Limestone beds, between 50 and 60 in number, presenting no very remarkable character. From this point we arrive at the great Quarry, which comprises the upper beds of the Limestone formation, inclining at an angle to the N.E. rather less than  $30^{\circ}$  to the horizon. In this quarry are found extremely fine specimens of crystals of carbonate of lime, or dog-tooth spar, Encrinal, Molluscan, and Corallian remains. This

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\*According to the measurement of G. Cumberland, Esq. in 1819, this lowest series consists of 32 beds.

section gives evidence of much disturbance in the arrangement of its strata, by numerous small faults and fissures. The upper portion of the quarry contains some fine beds of marble and oolitic limestone, tilted at rather a high angle, and much coloured by peroxide of iron, deep red and yellow, and partly covered by the debris from above.

The number of beds in this (great quarry) upper series of beds is 51, which also includes some thick beds of limestone in the towing path under the turning of the new road, and upon which the Dolomitic Conglomerate is seen resting in an horizontal position upon the inclined edges of the subjacent strata; between this spot and the corner of the new road, and near the Rownham point, the coal measures appear, forming a slight arch in the towing path, and may also be traced with much satisfaction on the opposite side of the river below Nightingale Valley. We now pass on to the foot of the new road leading to Clifton, situated immediately beneath the lowest bed of the precipitous cliff of St. Vincent (where the cliff terminates,) and which is succeeded by a steep bank, in which the strata close to the cliff are much confused and disturbed, and where it will at once be evident to the observer that a great fault or break in the continuation of

the Limestone exists, traceable onwards nearly to the great quarry.

This fault is believed to have been caused by the subsidence of the strata to the depth of 800 feet, so that in the bank adjoining the Limestone cliff, and also in continuation of the new road to the Down, and in the towing path to Rownham point, may be traced a *repetition* of the entire series, which occur from Windsor Terrace to the Pump Room; viz.— the *Millstone Grit*, the *Limestone Shales*, and the upper beds of the great Limestone series (to be described hereafter,) and on the opposite side of the river the fault may be clearly traced up the gully beyond Nightingale Valley to Stokeleigh Camp.\* It here becomes somewhat difficult to trace owing to the nature of the ground, but it is not improbable it may be carried on to the small coal field of Clapton.

The new road constructed in the face of this slope, affords a complete section of the re-appearing strata of the Hot-well series; and the lithological character of the beds will be found to agree in a remarkable manner, and may be

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\* Stokeleigh Camp is reached by a walk up Nightingale Valley, taking a turn to the right across the down, when you reach the top of the wood. It was an ancient British station, and a road is still traceable leading down to the river, across which there was a ford at that period, and a communication with the military station on the summit of St. Vincent's rock.

well distinguished and examined on ascending the road on the right hand side, where the edges of the strata crop out, dipping at an angle varying from  $20^{\circ}$  to  $40^{\circ}$  to the east. From the termination of these regularly inclined and conformable beds (of which there are 46) to a little beyond the corner where the road turns eastward, overlying beds of the Dolomitic Conglomerate occur, resting horizontally upon the older strata. This remarkable deposit of the new Red Sandstone Period, consists of fragments of the older rocks: as old Red Sandstone, Mountain Limestone, and Mill-stone Grit, firmly united together by a cement, which in most instances consist of Dolomite, or that substance blended with carbonate of lime.\* The position of the Dolomitic Conglomerate is well seen at Sneed and King's-weston Parks, and from thence down the Avon at the powder magazine, overlying in an horizontal position the highly inclined strata of the old Red Sandstone. Thence on the opposite side of the river at Ham Green, still forming the horizontal and upper beds, to Pill.

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\*This deposit or debris is equivalent to the Yellow Magnesian Limestone of the North of England. In this district it generally forms a thick bank or talus, near the base of those hills from whose beds it has been derived, while at a distance from them it grows thinner and at length wholly disappears.

In this Conglomerate or Breccia are found those singular concretions, called Geodes or Potatoe Stones, composed of Calc Spar, coarse Chalcedony, and Crystals of Quartz; but they are most abundant in the neighbourhood of the Mendips, Galena and Calamine occasionally occur either in small veins or disseminated throughout the rock; and sulphate of Strontian in those districts where the Conglomerate abounds.

This lowest member of the new Red Sandstone formation, may also be advantageously studied along the shore from Clevedon to Portishead,‡ where the sections and almost vertical beds of the Coal-measures and Old Red Sandstone, are capped by this diversified and singular rock; affording numerous examples of the varied manner in which these deposits have taken place; an accumulation reminding us of a sea margin along a coast of the poicilitic period. It also appears in and fills up the vale of Westbury, forming slightly elevated cliffs on the banks of the little river Trym. At the point or turn in the new road, before mentioned, it is seen, both in the form of a terrace of solid masonry standing high above the sharp turn in the road, and

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‡ For many interesting particulars of this locality, consult Mr. DUCK's useful little volume "The Natural History of Portishead," sold at the Hotwell Spa.

also as a kind of loose deep red pudding-like Conglomerate, an examination of which will equally repay the student and the curious.

In this Dolomitic deposit on the Clifton Down, have been found the remains of two remarkable and distinct genera of Saurians *Thecodontosaurus* and *Palaeosaurus*, a family of reptiles clearly allied to the living Varanidæ, and of which the Monitors are the nearest type.

These fossil remains\* are deposited in the museum of the Bristol Philosophical Institution. We have been somewhat particular in describing this division of the Trias, because it is an important feature in the geology of the neighbourhood; and added to which some difference of opinion exists among Geologists, as to retaining this as a separate or distinct formation from the New Red Sandstone. It will be perceived that we are of opinion, that this extensive deposit should not be separated from that formation, being clearly the earliest efforts of the seas of that period, in acting upon the older and subjacent rocks, of which this is (in every spot) the debris, and on which it immediately rests.

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\* "Found and described by DR. RILEY and MR. S. STUCHBURY—see Geological Transactions, sec Series, vol. v., p. 149; also, noticed by Professor OWEN, British Association Report (Reptiles) 1841."

Descending again to the foot of the new Road, from whence we started in our description of the great Fault; the lowest bed of the first great Limestone series at the St. Vincent's Rock\* stands boldly out, rising to the height of 300 feet inclined at an angle of  $70^{\circ}$ , and exhibits some remarkable curvatures in the upper portion. The highest point in this series is termed the Lion's head, a projecting ledge a little north of the great cavern or Giant's Cave, and may be recognised by its somewhat resembling, in certain positions, the head of that animal.

The middle of this series is distinguished by a precipitous cliff, on the summit of which stands the Roman camp and Observatory, and is immediately followed by a deeply indented chasm, at the foot of which bursts out a spring which commences to flow about the months of March and April. At the summit of this chasm, on the left, a capping or projecting dyke of the Dolomitic Conglomerate may be observed, standing immediately opposite the Swiss cottage, and at rather a higher level than this same deposit previously described, as being well

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\* St. Vincent suffered martyrdom at Valencia; a chapel erected to his memory on the rocks near the Hotwells, was standing in the time of William of Worcester. It was 27 ft. long and 9 ft. broad, and stood 20 fathoms (120 ft.) from the dry ground in about the middle of the rock.

recognised in the new road and other localities. Immediately beyond this indented chasm, is the precipitous mural face of St. Vincent's peak, bearing the unfinished and unsightly buttress of the projected suspension bridge. From the summit of this to the preceding height, at the Roman camp now occupied by the Observatory, a magnificent view of the surrounding country is obtained, and, as before stated, the outline and general geological bearing of the Bristol Coal field, may be traced from south-east to north-west, comprehending the districts of Nailsea, Pensford, Kingswood, and the centre of the basin generally, passing under Dundry Hill thence in a southerly direction to the Mendips.

Overlooking the Channel the course of the Severn, Welsh Hills, Portishead, Blaize Castle, and the entire gorge of the Avon come finely into view, with the marked contrast of scenery on each side of the river; the south or Leigh side being clothed with rich vegetation of the most varied character, and intersected with luxurious vallies, sacred ground to the botanist from the variety of its productions. The north or Clifton side presents entirely different features; bold and precipitous cliffs exceeding 300 feet in height, and scanty of vegetation; yet boasts of yielding to the keen eye of the plant-seeker, many rare and beau-

tiful gems of the British Flora, including *Hutchinsia petræa*, a delicate little plant found among loose stones, near a cave in the Limestone of the St. Vincent's series, overhanging the fault previously described; *Arabis stricta* or Bristol Rock cress, distributed over the Cliff; *Allium sphærocephalum* or round-headed garlic; and *Sedum rupestre* or St. Vincent's Rock stone-crop. Both here and at Cheddar Cliffs, the yellow cymose flowers, and glaucous leaves, of this pretty plant may be seen. The Bee and Fly orchis, with the Lilly of the Valley, Solomon's Seal, and other varieties, grace the rich heights and slopes of the Leigh Woods.

But to return to our description of the strata which border the river. After passing the last peak of Limestone, may be observed a steep and grassy slope, with two or three conspicuous scars of rock standing out, but the beds are here covered up until we approach the Zig Zag walk,\* winding its way to the summit; here several huge beds of Limestone crop out,

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\* This picturesque ascent, ingeniously constructed along the face of the rock, leads immediately from the Spa House up to Zion Hill. It was the favorite resort of her present Majesty, when the Princess Victoria, and sojourning at Clifton with her august mother. When Prince Albert was here, on the occasion of launching the magnificent Steam Ship the "Great Britain," his Royal Highness made a point of leaving his carriage for a short run down the pathway, so much beloved by his illustrious Consort in her girlhood.

inclined at an angle dipping N.E. at  $30^{\circ}$  to  $35^{\circ}$ , and which overhang the Pump Room. It is from the recesses of these beds that the far-famed Thermal spring issues, yielding sixty gallons of water per minute, at a temperature of  $76^{\circ}$  Farenheit, beautifully clear, and containing a considerable quantity of carbonic acid and nitrogen gas, chlorides of magnesium and sodium, sulphates of soda and magnesia, with carbonate of lime and some slight portion of carbonate of iron, &c., held in solution

After passing the Hot-well house and Pump Room, a few more beds present themselves, and immediately behind the Colonnade the great Limestone series ceases.

We here arrive at another class of deposits, *the upper Limestone shales*, which are comprehended in the space between the Limestone beds at the back of the Colonnade, and Windsor Terrace, where the true Coal measures and Millstone grit commence. These upper Limestone shales consist of alternating beds of Shale, Grit and Limestone, the latter rich in organic remains, especially corals. In the lower grits behind the Colonnade, two thin Coal seams occur, with shale and grit alternating, but the nature of the ground, and cultivated gardens, prevent the same inspection of the beds as in the lower members of this defile.

We now arrive at the last formation in the Avon gorge, viz., the Millstone grit, and immediately upon which rests Windsor Terrace. This rock is the lowest member of the true coal measures in *this* basin; the other divisions, the lower coal shales, Pennant grit and upper coal shales not occurring in this *immediate* vicinity, will scarcely need our description\*. These Grits are highly charged with the red oxide of iron, and extremely compact, of which we have a good example in the Brandon Hill stone, being a continuation of this zone all along the high ground above the Hotwell Road to Brandon Hill, and indeed throughout the heights of the City, including Park Street, St. Michael's Hill, and Kingsdown, passing beneath Stokes' Croft and upper Easton, where it is covered up; re-appearing again in the Kingswood basin, where a strong east and west anticlinal runs

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\* DR. BUCKLAND & MR. CONYBEARE consider these beds to be of the same geological age as the Millstone grit of Northern and central England; the miners of South Wales and Monmouthshire commonly know this deposit as the Farewell rock; since in descending order workable coal ceases to be found in it. The same geologists, to whom so much is due for their great labour, have divided the Bristol Coal field in ascending order into (1) Millstone grit, 1200 ft. in thickness; (2) lower coal shales, 570 ft.; (3) Pennant grits, 1725 ft.; (4) upper coal shales, 1200 ft., making a total of 6280 ft. for the thickness of the coal measures in the Bristol district.

across the Coal ground, between Holy Trinity and the City, with many minor undulations observable in it.

In the opposite direction from Windsor Terrace, this silicious zone crosses Rownham Ferry, skirting the western vale of Ashton, and in conformity with the subjacent strata of the carboniferous Limestone, the valley being composed of New Red Sandstone. The character of this grit, as before stated, may be well examined at Brandon Hill, where it is the type of the general appearance of these beds in the basin. Those who would study the other members of the Coal measures here, should visit Crew's Hole,\* Hanham, &c., on the Avon to Bath, where fine sections of the Pennant range are exhibited. Were we to enter more minutely, into the divisions and relations of these rocks to other portions of the district, it would carry us deeper into the study, and farther from the site mapped out than our purpose requires, and would be better suited to a work on the Geology of the neighbourhood, than a popular sketch of the

\* Crew's Hole took its name from having been the resort of a press gang, the crew of a king's ship lying in the roads, at a period when that now infamous mode of recruiting our navy was tolerated. A pleasant excursion to this spot and Hanham, may be taken in a wherry from various parts of the floating harbour.

relation of the Avon defile to the surrounding district. But having in the outset stated, that an observer may overlook and examine seven geological divisions of the earth's surface, we will merely name these several formations, and where good sections may be seen and examined.\*

At any point exterior to or eastward of Windsor Terrace in the vale, the new red Sandstone occurs, which in this district is the overlying strata immediately above the coal, and averages about 200 feet in thickness. Fine sections of the new Red may be seen at Aust Cliff, Pile Hill cutting on the Exeter line, and also on the New Cut,† the river above Rownham Ferry having been constructed through this formation.

Immediately above the new red Sandstone we have the Lias, in its respective divisions of lower, middle, and upper beds, with unrivalled sections at Keynsham, Saltford, Bedminster, and Horfield, rich in the characteristic

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\* Those who wish a more complete and extended view of the geology of this varied district, should consult the beautiful geologically coloured Map just published by W. SANDERS, Esq., F. G. S., where every surface detail is delineated.

† The New Cut is that branch of the Avon navigation which runs between Cumberland Basin and the Bower Ashton meadows. It was dug in order to give access to shipping of moderate burthen quite up to Bristol, without passing through the locks at Rownham. A fine road runs along its northern bank to the Terminus of the Great Western Railway.

organic remains of this reptilian age. The aggregate thickness of the Liasic series here exceeds 300 feet. Immediately resting upon the Lias in the true order of succession, the inferior Oolite occurs at Dundry,\* at an elevation (above the sea level) of 700 feet, far-famed and celebrated for its many valuable contributions to the pages of Palaeontology.

Turning our thoughts towards Bath and the Cotteswold range to the north east, we mount to the higher regions of the Oolitic formation, viz.: the Fuller's earth, great Oolite, and Forest marble, all within the compass of a day's excursion. But here we must pause, or the limits of our little guide will be inconveniently extended, and would merge into a hand book of the geology of the neighbourhood, which, although much required, cannot here be attempted.

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\* The beautiful tower of Dundry Church is a conspicuous object on a lofty range south of Bristol, and is well known as a landmark for shipping coming up the channel. A charming walk may be taken from the Hotwells to Dundry by crossing the Ferry, taking the footpath through Ashton Park, then across the moors under the Bristol and Exeter Railway to the old Bridgwater road, out of which another field path leads to the village.

## BOTANICAL NOTICE.

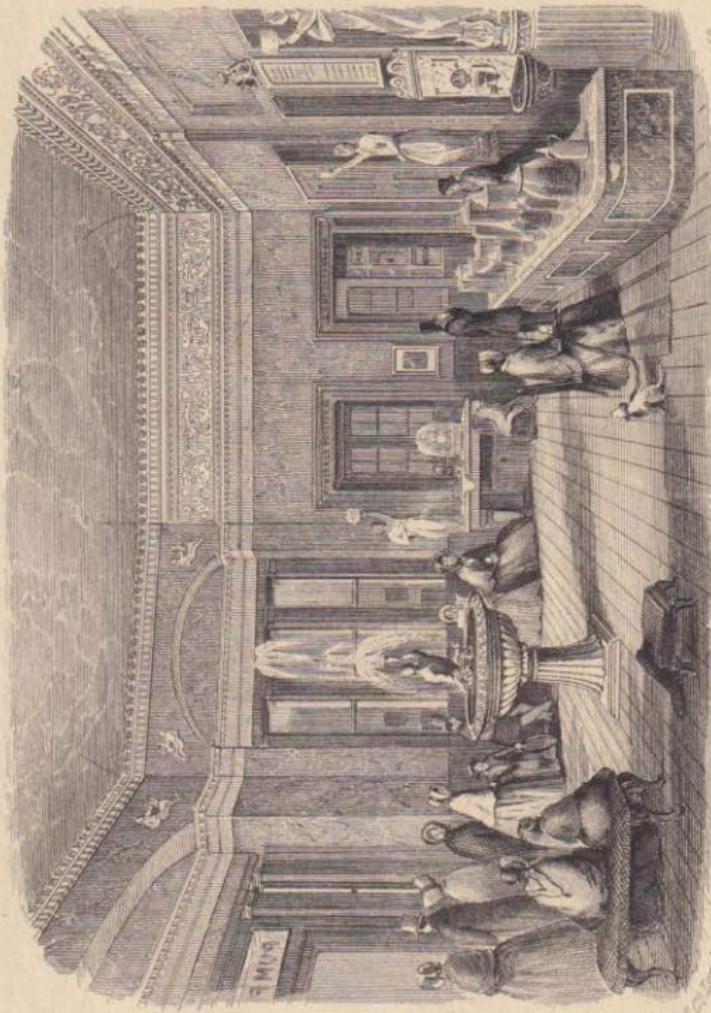
OUR little Hand-book is indebted for the following remarks, on the plants which adorn our rocks, to a scientific Botanist of this neighbourhood. Being intended for the general reader the special localities are not mentioned, nor is it attempted to give a complete list of the *Flora* of St. Vincent's Rocks, but only to draw attention to the botanical treasures of the Hotwells, which to the naturalist will perhaps prove not one of the least of its many attractions. A complete Flora of the neighbourhood is now in course of preparation, and will, we doubt not, give all the information the scientific visitor may require.\*

There is hardly any part of the neighbourhood of Bristol so rich in botanical specimens as St. Vincent's Rocks; whether the botanist visits the Wells in spring, summer, or autumn, he will find himself amply repaid for a few hours toil, in the pursuit of rare and interesting specimens. The stranger, however, would do well to be careful in rambling about, as many apparently easy paths lead to dangerous declivities, and several persons have lately lost their lives in venturing too near the edge.

\* "Flora Bristoliensis," by E. H. SWETE, M.R.C.S., will appear about May, 1853; when it may be obtained with other local guides at the Pump Room.

Most of the plants that are interesting may be easily obtained without any risk. In the spring, the whole surface of the rocks is covered with the *Chéiranthus Chéiri* (the common wall-flower,) which though often said to be indigenous when it is found on an old garden wall, is here really wild. The appearance of the rocks at this season is truly beautiful. The warm grey tint of the rocks, varied with the bright yellow of the wall-flowers, and the luxuriant growth of the *Smyrnium Olusatrum*. (Alexanders) an umbelliferous plant that flowers early in March, and covers a large tract of the rocks below the Ghyston Cave, with the occasional patches of the white flowers of the *Prunus Spinosa* (Black Thorn,) form a study for the artist, which is rarely met with elsewhere. There are several plants met with in the early months of the year, which are almost peculiar to this locality. A most interesting cruciferous plant, the *Hutchinsia petraea*, is found abundantly below, and a little to the north side of the Observatory. Here the whole plant is so minute that it might easily escape observation, if it be not searched for carefully. Close by will be found the *Sedum rupestre* (the St. Vincent's stone crop) and near this spot the wild lettuce and squill have been found, but the habitats have been lost of late.





June 2d 1852.

The Pump Room. Royal Clifton Spa.  
Hotwells. Clifton.

Book & Stationer, 32, 264.

Botanists are indebted to the pier of the attempted suspension bridge, for the loss of the squill, which used to grow in the greatest luxuriance on its site. About the Clifton side of the rocks may be found the *Arabis stricta*, so peculiar to this locality, as to be named the Bristol or St. Vincent's Rock Cress. The *Coronopus ruelii*, and *Lepidium ruderale* (Swines' cress) as well as many other interesting Crucifers, may be found on the rocks. The *Geraniacæ* are well represented here; nearly the whole natural order being found. The *G. Sanguineum*, one of the most beautiful of our native species, is abundant both on the rocks and on either side of the river below.

Among the umbellifers, the *Apium graveolens* (Celery) *Pimpinella*, *Saxifraga*, *Foeniculum Officinale* (Fennel) and the *Smyrnium Olusatrum* are the most important; the fennel and celery are also found abundantly along the river side. Near the cottage at the foot of the rocks, is an excellent habitat for the *Rubia peregrina* or (Madder,) not unlike the clyder in appearance, but with large whorls of harsh dark green leaves; several of the Galiums are also to be met with. The *Gentiana amarella*, and *Chlora perfoliata* are not uncommon, and several interesting *Veronicas* may be found, in and about the plantations at the foot of the rocks. The *Salvia*

*Verbenacea* may be met with abundantly in full flower in the month of June, both near the pier of the bridge, and at the foot of the rocks. Several interesting orchids grow on the highest and most inaccessible parts of the rocks; but such is the demand for roots, that it is feared that the habitat will be soon completely destroyed. The *Spiranthes Autumnalis* (Ladies Tresses,) *Orchis pyramidalis*, and the *Ophrys apifera*, and *Muscifera*, may be found.

Amongst the short grass at the top of the rocks, in the spring of the year, may be discovered the little *Carex pulicaris*, and *C. Clandestina*; and on the south side of the Observatory above the intended road to the bridge, is the *Bromus Madritensis*; this is not uncommon on the river side. Close to the water a few specimens of the *Lepturus incurvatus*, a rare marine grass, have been found, but it grows more abundantly at the mouth of the river. The Privet, *Ligustrum Vulgare*, is truly wild on these rocks, and the *Antirhinum majus*, a doubtful native, may be seen in flower in June near the Hot-well Pump Room.

Inside the mouth of the Giant's Hole, which may be entered from the Observatory by a tolerably easy passage, may be found, more interesting from their locality than from their characters, the *Ceterach Officinarum*; the *Sedum*

acre and rupestre; the *Fragaria sterilis*; *Draba verna*, and possibly *Scilla autumnalis*.

It must not be supposed, from this slight sketch of our Botanical treasures, that these are all the plants that may be found here; a few only are mentioned, with the view of stimulating the scientific visitor to search for himself; proving that whether we visit the locality for its waters, climate, scenery, geology or botany, it fully bears out the character which has always been given it. Subjoined is a list of the more important plants occurring on the rocks and their immediate neighbourhood.

<i>Ranunculus parviflorus</i>	<i>Torilis infesta</i>
— <i>hirsutus</i>	
<i>Coronopus didyma</i>	<i>Rubia peregrina</i>
— <i>ruellii.</i>	<i>Lactuca virosa</i>
<i>Hutchinsia petraea</i>	<i>Erigeron acris</i>
<i>Lepidium ruderale</i>	<i>Ligustrum vulgare</i>
<i>Arabis stricta</i>	<i>Veronica spicata</i>
<i>Turritis glabra</i>	— <i>hybrida</i>
<i>Cheiranthus cheiri</i>	<i>Antirrhinum majus</i>
<i>Sinapis muralis</i>	<i>Orobanche major</i>
<i>Viola hirta</i>	— <i>minor</i>
<i>Erodium moschatum</i>	— <i>hederae</i>
<i>Geranium sanguineum</i>	<i>Salvia verbenaca</i>
<i>Hippocratea comosa</i>	<i>Spiranthes autumnalis</i>
<i>Potentilla verna</i>	<i>Orchis pyramidalis</i>
<i>Sedum telephium</i>	<i>Ophrys apifera</i>
— <i>rupestre</i>	— <i>muscifera</i>
<i>Smyrnium olusatrum</i>	<i>Scilla autumnalis</i>
<i>Apium graveolens</i>	<i>Carex pulicaris</i>
<i>Trinia vulgaris</i>	— <i>clandestina</i>
<i>Pimpinella saxifraga</i>	<i>Gastridium lendigerum</i>
<i>Foeniculum vulgare</i>	<i>Bromus madritensis</i>
	<i>Lepturus incurvatus</i>

The following *Testimonial*, as to the virtues of the Waters, written by a Physician in high practice, has been signed by nearly seventy of the most eminent local and London Physicians and Surgeons, many of whose patients are now deriving benefit from the Water and the Baths.

### TESTIMONIAL.

"The purity of the Hot-well Water as to Saline Ingredients renders it peculiarly suitable to those cases of Chronic Diseases in which the diluent effects of Water are required. By its *thermal* quality, and its large impregnation with Carbonic Acid Gas, it is undoubtedly capable of imparting tone to the Digestive Organs ; and it has been found to be very useful in cases characterized by an unhealthy condition of the mucous membranes generally, more especially in Bronchitis accompanied by Dyspepsia, and in Disorders connected with the Kidneys. The external use of the Water in Warm Bathing has been found very beneficial in Chronic Cutaneous Diseases."

Baly William, M.D., London  
Budd William, M.D., Physician to the Infirmary  
Beatly Wm. C., M.D., Clifton  
Burroughs J. B., Surgeon, Clifton  
Bernard Ralph. M., Surgeon, Clifton  
Brittan F., M.D., and M.R.S.C.L., Lecturer on Physiology  
Bristol Medical School  
Burleigh Alfred, M.R.C.S., Bristol  
Bartley Robert T. H., M.D., Bristol  
Bryant Saml., M.R.C.S., Bristol  
Chandler John Moss, Surgeon, &c., Bristol  
Colthurst John, F.R.C.S., Surgeon to the Clifton Dispensary  
Cross William, Surgeon, Clifton  
Cleave W. O., Surgeon, Clifton  
Clark Henry, F.R.C.S., Surgeon to Bristol Royal Infirmary  
Davies David, Surgeon, Bristol  
Davis John, M.D., Physician St. Peter's Hospital  
Fairbrother Alex., M.D., Physician to the General Hospital  
Fox William Charles, M.B., Cantab  
Fryer Thos., M.R.C.S., Bristol  
Greenby C. H., Surgeon, Bristol  
Goodeve, Sen.Wm. Jas., Surgeon to the Clifton Dispensary  
Gillow William, Surgeon, Clifton  
Greig Charles, Surgeon, Bristol  
Granger Frederic, Surgeon, Bristol  
Godfrey James, Surgeon to the Bristol General Hospital  
Green Thos., M.D., F.R.C.S., Surgeon to the Infirmary

Gatehouse Chas., Surgeon, Clifton  
Humpage Edward, M.R.C.S., Clifton  
Herapath William, Analytical Chemist, Bristol  
Humpage John, M.R.C.S., Bristol  
Kelson Josh. James, Surgeon, Bristol  
Lancaster Joseph, M.R.C.S., &c., Clifton  
Lang William, Surgeon to the Bristol General Hospital  
Lyon Gilbert, M.D., Physician to the Infirmary  
Morgan W. F., F.R.C.S., Surgeon to the Infirmary  
McDonald J. P., M.R.C.S., Bristol  
Neild John Cash, Surgeon to the Bristol General Hospital  
O'Bryen, John M.D., M.R.C.S., England, Physician to St. Peter's Hospital  
Parker George John, Surgeon, Bristol  
Prichard Augustin, M.D., Surgeon to the Bristol Royal Infirmary, Berlin, &c.  
Robertson Henry, M. D., Clifton  
Rogers George, M.D., Physician to the General Hospital  
Ruddock R. B., Surgeon, Bristol  
Stanton John, M.D., Physician to St. Peter's Hospital  
Smerdon Chas., Surgeon, Clifton  
Swaine S. Henry, Surgeon, Clifton  
Symonds J. A., M.D., Honorary Physician to the Bristol General Hospital [School  
Swayne J. G., M.D., Lecturer on Midwifery, Bristol Medical  
Stephens Henry Oxley, M.R.C.S., Honorary Surgeon to St. Peter's Hospital  
Smith N., Consulting Surgeon to the Bristol Royal Infir.   
Sawyer Thomas, Surgeon, Clifton  
Sleeman Philip R., M.R.C.S., Bristol  
Shorland Henry, Surgeon, Bristol  
Terrell Frederick, Surgeon  
Talbot George T., M.R.C.S., Stoke  
Waldo Edward, Surgeon, Bristol  
Wilson John Grant, late Senior Surgeon to the Bristol General Hospital

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The water is also much used in Families on account of its beautiful sparkling appearance, agreeable taste, and freedom from all impurity, on which latter account it will keep good in any climate.

Many instances have recently arisen of wealthy families coming to reside in Clifton on account of the improvements that have been made in the Hot-well House and Baths, and it is but reasonable to expect, that the Establishment will form a source of great attraction as it becomes known. This has not been brought about without considerable outlay, and the Proprietor trusts that the Public will show their estimation of his endeavours by liberally supporting what is evidently so much for the public good.

# The Bristol Hot-wells.

(From the Cambrian.)

A recent visit to the salubrious, but long neglected *Bristol and Clifton Spa*, situated at the foot of St. Vincent's Rocks, has proved delightfully reviving to old memories, and refreshing to an unabated taste for combinations of utility with elegance.

Half a century ago the Hotwells was a favourite resort, and its substantial comfortable houses in Dowry Square and Parade were as well tenanted as the more modern mansions now multiplied on the hill and near Clifton Down. The pump room was frequented at the advice of physicians, and the lovely scenery and pure air of the neighbourhood contributed largely to the benefit of invalid visitors. Medicine, however, has its fashions, like all other mutable things, and, for many years, this Spa has been neglected by the faculty, who naturally influence their patients. Still the actual medicinal properties of the water remain unchanged, and might, without doubt, be often substituted beneficially for the more potent, but often dangerous, remedies of our modern pharmacopœia. Glancing over some authentic prescriptions of the last century, the following formulæ are frequently met with:—"Pills are ordered to be taken twice a day, superbibendum haustulam *aq. Bristol*;" or drops the same number of times in haustulo *aq. Bristol*;" thus adopting *Bristol water* as an efficacious vehicle for medical preparations. It was also customary to order two glasses of the water daily before breakfast, taking an hour's gentle exercise between the doses, and two more glasses to be taken in like manner between breakfast and dinner. In disorders of the alimentary canal, dyspepsia, bilious diarrhoea, slight dysentery, and diabetes, this attractive Spa certainly ministered great alleviation, as well as in pulmonary affections, when resorted to in a curable stage. Its temperature, 76 deg., is agreeable to the stomach. When fresh drawn, it sparkles with bubbles of carbonic acid gas, and is gratefully soft to the palate, holding in solution a small proportion of neutral salts, with only about 47 grains of solid contents to the gallon.

To one who has known and admired the locality for half a century nothing can be more satisfactory than to see the Hotwell Spa fallen into the hands of a man of taste, science, and energy. Such a man

the present proprietor has proved himself, by the judicious and elegant improvements he has effected in the whole establishment. The pump room is fitted up with every graceful ornament and convenience for a lounge. A fountain, in the centre, sends up a constant stream, which descends into a basin glistening with gold and silver fishes. The windows and tables abound in books, prints, stationery, and geological specimens, with other articles of *vertu*. Delicate confectionary is sold in one compartment, and at the opposite end is a *depôt* for various ingenious inventions, and a list of artificial mineral waters, manufactured on the spot. But, above all, the BATHS merit high commendation, and are rendered available to the public on very reasonable terms, so that they are now much frequented both for health and pleasure. A spacious tepid swimming bath, 34 feet long by 18 feet wide, has just been completed. It is lighted by a glass dome, and has convenient dressing-rooms at either end. In addition to these attractions, a large and handsome apartment up-stairs is fitted up for the use of luncheon or tea parties. A grand piano stands ready for all musical amateurs; and the windows command a fine view of St-Vincent's Rocks, Leigh Woods, and a long reach of the Avon. At flowing tide, when shipping is arriving and departing, few spectacles of natural beauty can compete with the look-out from these windows; and the various passengers on the carriage-road, and on the opposite bank of the river, mostly seeking recreation, add a lively interest to the scene. It may be hoped that visitors to Clifton and Bristol will be induced to bestow more of their notice on the Hotwells and its advantages than has heretofore been conceded. They have, undeservedly lost their former vogue, and Mr. Bolton's spirited efforts at restoring it merit all success. Omnibuses are now running at three-penny fares every half hour, between here and the city, greatly facilitating free intercourse; the citizens thus obtain an opportunity of luxurious bathing without fatigue or much cost; and of strolling through Leigh Woods, or the lovely park and meadows of Ashton. There can be no doubt, as the season advances, that the proprietors of the ferry, of the strawberry and tea gardens, will all derive advantage from this great public accommodation. The Spa cannot fail to be a growing attraction; and though the upper portions of Clifton may be more aristocratic, the Hotwells can independently maintain its claims to distinction. It has salubrity of climate, a complete Spa and bathing accommodation, excellent hotels, respectable shops, commodious lodging and dwelling houses, and, in its immediate vicinity, rural beauties of rare loveliness.—May, 1852.

# The Establishment

Now consists of a Pump and Reading Rooms; Baths of various descriptions; a Tepid Swimming Bath; Two Shops; Large Refreshment Room, and a Mineral Ærated Water Manufactory.

## THE SPA REFRESHMENT ROOM,

Commanding extensive views of St. Vincent's Rocks, Leigh Woods, and the River Avon, is open for the supply of Tea, Coffee, Luncheons, &c., on moderate terms; or the Room can be hired for Private Parties, Balls, &c.

## ADJOINING THE PUMP ROOM

Are departments for the supply of Confectionary, Fruit, Ices, &c., and for Stationery, Guide Books, Views, and Minerals of the neighbourhood, of which a large assortment is kept.

### THE CELEBRATED

## HOT-WELL TOOTH POWDER,

Which is in great request by many of

## THE ROYAL FAMILY,

IS ALSO

## PREPARED FROM THE SPA WATER.

It has now been in use for more than 20 years, and its reputation is every year increasing.

It is found *most effectually to clean the Teeth*, while at the same time it has not that injurious effect upon the enamel, that is so much a source of complaint in most other Tooth Powders.

Sold in Boxes, One Shilling each.

## Royal Clifton Spa,

## TERMS OF SUBSCRIPTIONS

## **TO THE PUMP & READING ROOMS.**

ONE YEAR .. .. .. .. .. .. .. .. .. .. ..	1	1	0
HALF YEAR .. .. .. .. .. .. .. .. .. .. ..	0	15	0
QUARTER .. .. .. .. .. .. .. .. .. .. ..	0	10	0
MONTH .. .. .. .. .. .. .. .. .. .. ..	0	5	0
WEEK .. .. .. .. .. .. .. .. .. .. ..	0	2	6

For a Family of three, *Double.*

Subscribers can call for Water in the Pump Room, and *send* for a Pitcher of Water each day, or have it *sent* to their residences, on payment of an extra Subscription.

The Price of the Water to Non-Subscribers is 1d. per Glass, a Pitcher or Bottle of Water 6d. If sent 2d. extra.

The Water is also supplied in Imperial Quart Bottles at 8s. per doz.,  
Bottles included, each Bottle bearing the Seal of the Proprietor.

## TO THE BATHS.

The Tickets must be used within 12 months from the date of issue or they become void.

**Portable Hot Baths sent out at a moment's notice.**

*All kinds of Baths lent on Hire.*

The Baths and Pump Room are open from 6 o'Clock in the morning until half-past 10 o'Clock at night, Sundays excepted. In cases of necessity Baths can be had at any other time on double payment.

THE  
**Sion Spring Baths,**  
CLIFTON,

Have also been RE-BUILT, and are NOW OPEN, under  
the same Proprietorship as the ROYAL CLIFTON SPA.

These will be found very convenient for INVALIDS and others, who do not wish to descend the hill. In connection with them, Shops are opened for the Sale of

**STATIONERY, GUIDE BOOKS, VIEWS,  
MINERALS,**

And a variety of other Articles useful to Visitors.

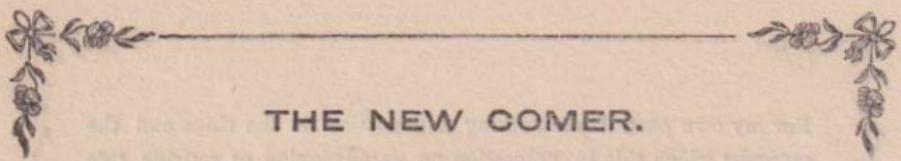
## A TELEGRAPHIC COMMUNICATION

Exists between the two Establishments, so that orders for the Hotwells can be left at Clifton, or vice versa.

## **TERMS :—**

WARM BATH, (always ready,) with three hot Towels Brushes, Soap, &c.	.. .. ..	0 2 0
The LARGE BATH	.. .. .. .. ..	0 2 6
COLD SHOWER, or DOUCHE BATH	.. .. ..	0 1 6
WARM SHOWER, or DOUCHE BATH	.. .. ..	0 2 0
VAPOUR BATH	.. .. .. .. ..	0 3 0
BRAN or SEA BATH	.. .. .. .. ..	0 3 0
RUSSIAN, SULPHUR, or HARROWGATE BATH	..	0 4 0
HOT AIR or MERCURIAL BATH	.. .. ..	0 5 0

Thirteen Baths, of any kind, charged as Twelve, if paid in advance.



## THE NEW COMER.

(From the *Bristol Times* of Saturday, Nov. 20.)

I have more than once alluded to the HOT-WELL HOUSE, a very pure and pleasing example of Greek architecture, situated in a locality which has no mean pretensions to hold comparison with that famed one of Greece, the *Vale of Tempe*. It is interesting to consider the resemblance between the Thessalonian and the Bristolian river gorges; not only in respect to their general form and leading features, but also in regard to the like natural phenomena which are by geologists supposed to have produced them. The *Peneus* and the *Avon* are imagined to have "anciently inundated the plains" of the inner country; until, owing to earthquake, or to the sudden action of a greater body of water than could be held in stagnation by the heretofore retaining ground, the "Cuts" were opened, which let the congregated waters free in their rushing course: the one to the Thermean gulf, the other to the Bristol Channel. "The poets," says Lempriere, "have described the Vale of Tempe as the most delightful spot on the earth, with continually cool shades, and verdant walks which the warbling of birds rendered more pleasant and romantic. It extends about five miles in length; but was scarce one acre and a half wide." Another writer says, "the rocks which inclose it rise in precipices from the bed of the *Peneus*, and at the narrowest point these precipices approach so near each other, that the road is cut in the face of them." We may presume that, in point of scale, the British *Tempe* is less than that of Thessaly; but otherwise, the difference that may now exist, is less that of nature's distinction, than such as has been unhappily effected by the quarryman. More sublimity of form can scarcely be desired, than what presents itself in those portions of the *Vincent rocks* which have escaped the deteriorating operations of the blaster; and, assuredly, the *Valley of Nightingales* with its "continually cool shades and verdant walks," its "inclosing precipices," and varied foliage, may safely challenge the best of the kindred features which fascinate those who seek shade and solitude at the feet of Ossa and Olympus. The *Avon* has, at all events, the advantage of the *Peneus*; for the latter is described as "a very small stream, generally sluggish and shallow, except after the melting of the snows." At such times it would be even less lucid than the *Avon*, the muddy quality of whose water is the only drawback from the perfection of the exquisite scenery which it enlivens.

For my own part, I see nothing anti-poetical in the ships and the steamers which ride in procession on its advancing or retiring tide and I only wish the prosperity of dear old Bristol had been consistent with the preservation of its river and its rocks in all their natural integrity.

It is then one of my greatest delights to be a frequent visitor to the Temple of *our* Tempe, which has been rendered so complete as a health-giving place of attractive resort, by my spirited friend Mr. BOLTON—a worthy citizen of our far famed and fortune blessed city. He is meeting with the success he deserves; but he will deserve as much more as he can meet with. Irrespective of the perfection of his establishment—as affording the most pleasant of medicinal beverage, baths of every quality, objects of taste and beauty for observation or purchase, confectionary refreshment for the hungry, literary information for the curious, and accommodation for social delight—it is pre-eminently attractive on the strength of its situation as the centre of a scene which the poet, the artist, and the lover of nature (to say nothing of *other* lovers,) might select for the promotion of their best feelings, perceptions, and innocent emotions. Were there such a spot in any locality of “fashionable resort,” it would be the lounging place of all England’s sons and daughters of leisure; nor can I see why my Lady Fashion should not, long ere this, have made it one of her most favored abodes. Such an extraordinary union of maritime life and movement with scenic romance, is not, in *my* knowledge at least, to be found elsewhere. Commerce, in a general way, may be hostile to polite communion; but all that is here seen is the *very poetry* of commerce. Stately ships, bearing in and out the wealth of nations; and animated steam-boats, darting along like glittering fish, to the tones of mixed melody or the twang of the harp: these are perfectly consistent with a generous and unselfish love of natural beauty; and promotive of an influence which will but prevent meditation from becoming moody and unkindly abstracted in the indulgence of its thoughts.

I can imagine nothing more agreeable than an amiable agreement, on the part of the numerous Cliftonians of accomplishment and leisure to make Mr. Bolton’s Pump Room a meeting place for the communicative pleasure of a diurnal *converzazione*; to be established of course on the most “free and easy” principles which are compatible with politeness and propriety.

RODERICK RAMBLE.

## CLIFTON SPA.

*To the Editor of The Bristol Mercury.*

SIR—As I happen to agree with old Pindar that water is best, and that it ought to be preferred as a general drink to any other that can be mentioned, I have paid some attention to the analysis of the Mineral Water of the Clifton Spa, now ably superintended by Mr. Bolton. Mineral Waters demand our particular regard, as some of the most valuable medicines furnished us directly by Providence and nature. They are extolled in the Bible as they occurred in the celebrated streams and pools of Siloah and Bethesda at Jerusalem. They are recommended in the most ancient classical writers. They have stood the test of the experience of all ages and nations, and their fame has grown with the growth of science and civilisation. The result of my examination is that our Spa Water is highly salutary; and that its power of preserving and restoring health is not inferior to any of its competitors. This was the old notion that prevailed in the palmy days of the Hotwells, when thronged with nobles and nobilities, while Clifton was still insignificant, and this view deserves to be revived at present in full force. I grant that the Clifton spa water is more gentle and gradual in its action than some of its British and Foreign rivals. But this fact is rather in its favour than otherwise, for a mild alterative is the safest remedy for most constitutions, and is particularly suited to cases of indigestion and gout. On this subject the words of Dr. Anthony Todd Thompson are worth quoting, as they set the matter in a clear light. “ Saline mineral waters,” says he, “ owe their properties altogether to saline compounds; those which predominate and give their character to waters of this class are salts, the basis of which is lime, muriate of soda and magnesia, sulphate of magnesia, and alkaline carbonates, particularly carbonate of soda. The most celebrated of these saline springs, which are mostly purgative, are those of Bristol, Cheltenham, Leamington and Seidlitz. They are employed in such diseases as

dyspepsia, hypochondriasis, jaundice, &c. They are more grateful to the stomach when carbonic acid is present, and when they contain iron; their tonic powers, combined with their purgative qualities render them still more useful." It is not necessary in this place to repeat the analyses of the Bristol spa water, made by Davy, Carrick, Glanville, Higgins, Berkenhout, Herapath, &c., but they prove the fact that it contains all the above-named ingredients, so as to render it an excellent remedy, especially in complaints arising from acidity of stomach. "It is particularly efficacious," says Dr. Hooper, "in moderating the thirst, the dry burning heat of the hands and feet, the partial night-sweats, and the symptoms that are peculiarly hectic; and thus in the earlier stages of phthisis it may materially contribute to complete re-establishment of health, and even in the latter period mitigate the disease, when the cure is doubtful if not hopeless." All parties seem agreed that it keeps the skin moist, diminishes feverishness, and improves the appetite. In further confirmation of my argument that the Clifton spa water has peculiar qualities which distinguish it from ordinary waters, I must add, that its warmth is generally near 80 degrees, owing to its source beneath our lofty cliffs being so deep as to be influenced to an unusual degree by the subterranean fires of the earth, and it has an evident sympathy with volcanic agencies, as it became very red and turbid precisely at the period of the great earthquake at Lisbon, 1755. I conclude by quoting an observation from Chilcott's history of Bristol. "The Bath waters and those of the Hotwells are supposed to have their source in the same basaltic range, though they differ considerably in quality and temperature. The sediments of both, when burnt in a dark room, show a blue flame, emit a strong smell of sulphur, and effervesce when placed in contact with acids." Should these lines give any additional popularity to a Spa which so well deserves it, and thereby promote the health of the inhabitants, their object will be gained.

Yours, &c.,

F. B.

Feb. 5, 1853.

THE  
CLIFTON STEAM MINERAL WATER WORKS  
AND  
PATENT SYPHON VASE DEPOT,  
ATTACHED TO THE PUMP ROOM,  
HOTWELL HOUSE,  
JAMES BOLTON, PROPRIETOR.

*Spa Water, Patent Machinery, Steam Power, Experienced Operatives, and the constant supervision of the Principal, combine to make the manufactures of this Establishment, superior to any other in the Kingdom.*

The various Waters &c., can be obtained at most Chemists, Confectioners and Hotels, or direct from the Works,

**A Cart Delivering in Bristol and Clifton Daily.**

There are agents in most parts of England, and the principal towns in Wales

**THE MANUFACTORY**

is built in the rock from which the Spring issues; the peculiarly health-restoring properties of the Water, its agreeable taste and pungency when Aerated, producing salutary and refreshing qualities, far above what are to be found in Waters that are ordinarily supplied under the same names.

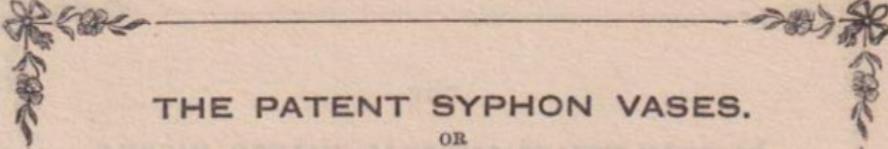
The Business being principally Wholesale, and conducted solely for Ready Money, the Proprietor is enabled to fix the following low list of

**PRICES :**

CARBONATED or AERATED	2 9	POTASS .....	3 0
SODA WATER .....	2 9	MAGNESIA WATER ..	3 6
LEMONADE .....	3 6	GINGER BEER .....	2 9

If packed for the Country, 3d. per doz. extra, Bottles 2s. per doz.  
Hamper to hold 6 doz. 2s., 12 doz. 3s.

*All Orders must be paid in advance, including Hamper & Bottles*



## THE PATENT SYPHON VASES. OR PORTABLE SODA WATER FOUNTAINS,

Are elegantly PORCELAIN VESSELS, of the capacity of rather more than three ordinary Soda Water bottles, which by a simple mechanical arrangement on the top, afford the means of withdrawing at pleasure, without noise or inconvenience, such quantities of their contents as may be desired, leaving what remains for subsequent use, unimpaired in purity or effervescence, for any period of time.

They are sent out full, and lent free of charge to consumers of the Waters, the price being about the same as in the more inconvenient form. If a fresh supply is required when the Vases are emptied, full ones are sent in exchange, the contents alone having to be paid for.

Thus it will be perceived, that in the use of these Vessels (which would be an ornament to any table on which they might be placed) *elegance, purity, convenience, and economy are combined.*

They are exceedingly suitable for Dinner and Evening Parties, and for Invalids; for the latter, they are highly recommended by the Faculty.

### THE WATERS SUPPLIED IN THE PATENT SYPHON VASES, ARE CARBONATED, SODA, AND POTASS.

#### THE CARBONATED WATER

Contains NO SODA, and is expressly so prepared in compliance with the highest medical recommendation, it being found, that SODA WATER taken constantly as a drink, has a very weakening and injurious effect upon the system; whereas pure Aërated or Carbonated Water acts as a tonic rather than otherwise. It has this advantage also:—that those who wish occasionally to take SODA WATER, may readily do so by putting a little of the Alkali into the glass about to be used. Hence the Syphon Vases afford to consumers a pure Aërated Water when so desired, and at the same time, enable them to take measured or prescribed quantities of the Alkali, when taste or professional recommendation sanctions its use.

#### The SODA and POTASS WATERS

are supplied of two strengths, viz:—with one grain, and one grain and a half of Alkali to the ounce of Water; but they can be prepared of more or less strength when required.

#### STANDS, COOLERS, and ICE PAILS, for the VASES.

Also the new and Elegant

#### BEAUFORT GLASSES,

Suitable for Aërated Waters, Ale &c., from 18s. 6d. per dozen.

*The business being conducted exclusively for ready money, it is respectfully intimated that all goods purchased, must be paid for at the time, or on delivery, or they cannot, under any circumstances be left.*

A LIST OF  
FOREIGN & BRITISH SPA WATERS,  
SUPPLIED IN THE  
Foreign Department adjoining the Pump Room.

FOREIGN.

**SELTERS**,—More commonly called Seltzer, an acidulous alkaline Water, alterative and cooling.—*Price* :—quarts, 10s. 6d. per doz.; pints, 7s. 6d. per doz.

**FACHINGEN**,—A Chalybeate alkaline Water, Tonic, antacid.—*Price* :—12s. and 8s. 6d. per doz.

**HOMBURG, ELIZABETHEN**,—A Chalybeate Saline Water, alterative tonic—18s. and 12s. per doz.

**KISSINGEN-RAKOCZI**,—A Chalybeate Saline Water alterative tonic.

*Price* :—quarts, glass bottles, 20s. per doz.; pints, 14s. per doz.; stone bottles, quarts, 18s.; pints, 12s.

**EMS**,—An Acidulous Saline Water, antacid alterative. *Price* :—quarts, 12s. per doz.

**MARIENBAD**,—A Saline Water with a trace of iron, alterative aperient. 24s. and 18s. per doz.

**PULLNA, SAIDSCHUTZ, & SEIDLITZ**,—Saline Waters, urgative. 24s. and 18s. per doz.

**PYRMONT and SPA-POUHON**,—Chalybeate Alkaline Waters, tonic. 24s. per doz.

**SCHWALBACH**,—A Chalybeate Water, tonic alterative. *Price* :—quarts, 14s. per doz.

**VICHY**,—An Alkaline Water, antacid and diuretic. *Price* :—quarts, 21s. per doz.

**BAREGES, BONNES and CAUTERETS**,—Hot Sulphur Waters, diaphoretic alterative.

**ENGHien**,—A cold Sulphur Water, diaphoretic alterative. 16s. per doz.

Weisbaden, 12s. 6d.; Kreuznacher, Adelherde Quelle 16s.; Geilnau, 11s. pints.—Carlsbad, Sprudel, 30s.; Heilbroon, 15s. quarts.

BRITISH

		s. d.
Brighton Seltzer ( <i>Struve's</i> )	..	per doz. 8 0
Ditto ( <i>Hooper's or Mayo's</i> )	..	,, 6 0
Harrowgate, Cheltenham, Malvern, Leamington, Birmingham, Bath, &c., &c.		

An account of the properties of the above Waters and the quantities usually prescribed, may be had on application.

**THE BRISTOL HOT-WELL WATER,**  
*8s. per doz. Imperial Quarts.*

To be obtained Wholesale and Retail at the Hot-well House.

*Prepared Genuine from the Original Recipe*

## THE INDIAN SOAP,

OR

FRAGRANT BALSAMIC WASHING PASTE,

As Prepared at DELHI.

Kind Nature's choicest favours deck the ground,  
Diffusing fragrant odours all around;  
A Paradise of beauties, beaming bright  
On Ganges' banks delight the ravish'd sight:—  
These richest gifts, combin'd with skilful care,  
Preserve the polish'd charms of INDIAN Fair!  
Nature gives much!—But Art's assisting power  
Aids Nature's efforts, and her blooms secure!

THE above elegant Preparation stands *Unrivalled*, for its superior excellence in cleansing the skin and improving its appearance.

This announcement is not to be regarded as an empty compliment paid to its merits to gain an extensive sale, (as is too often the case with similar articles of the toilet,) but a plain *Truth*; and a single trial will fully justify the accuracy of this assertion.

No person, it is candidly believed, who is in the habit of using any other than common Soap, will ever, after trying this delicate and fragrant Paste, be tempted to forsake it for anything of the same kind.

### THE FACE.

The effects of the habitual use of Soap, in general, on the FACE, are well known;—the coarse appearance it gives to the skin, and the rough feeling it afterwards occasions—so much so, that many individuals have abandoned the use of it altogether.—To such persons, the “INDIAN SOAP” is indeed, a *desideratum*, and one which, it is confidently expected, they will eagerly avail themselves of; for water alone is not sufficient to perfectly cleanse the face, or indeed, any other part of the body; because the moisture secreted on the skin will not unite with water; neither is the practice agreeable.

## THE COMPLEXION.

The Proprietor of the "INDIAN SOAP" has no inclination to overrate its peculiarly delightful and distinctive virtues, by statements of an erroneous character; on the contrary, he believes a discriminating public generally know how to appreciate a good article, of any description, without having recourse to such weak and threadbare aids: it will not, for instance, give beautiful features, where none ever existed; neither will it wash the "Æthiopian white:" still, it is not too much to state, that every person's COMPLEXION will be immensely improved who uses it; and that it will ever tend to keep away, to the latest period of life, that partial, indirect disorganization, commonly called *wrinkles*,—a matter of the utmost consequence to all who value a youthful and blooming appearance.

## THE NURSERY.

From the very nature of the materials of which this article is composed, together with the manner of its preparation,—being so exactly suited to the purpose intended, no idea can be formed, but by experience, of the pleasure arising from the use of it. Its qualities are not only cleansing, but at the same time, delightfully refreshing; and so free is it from every thing of an irritating character, that it is the very best composition known for *Infants* of a tender age, and Nursery use in general.

## WASHING.

For *Washing Lace*, or any very fine material, it is particularly recommended; and for this purpose will be found equally cheap as the common Soap.

## SHAVING.

As a SHAVING SOAP, it is unequalled; and possesses that soothing quality which is so much needed by persons whose skin is tender and irritable. It may be used with cold water, with perfect ease, and will produce a fine and soft lather.

## THIS ELEGANT ARTICLE

*Is prepared Genuine, by the Proprietor, (who has purchased the original Recipé;) and, by appointment, is Sold by the principal Chemists and Perfumers throughout the Kingdom.*

**In Pots, price 1s. and 2s. 6d. each.**

To prevent imposition, each Pot will be accompanied with a printed bill, signed by the Proprietor, J. BOLTON, Hot-well House, Hotwells, Bristol, in his hand-writing, to counterfeit which is felony, and without which none can be Genuine.

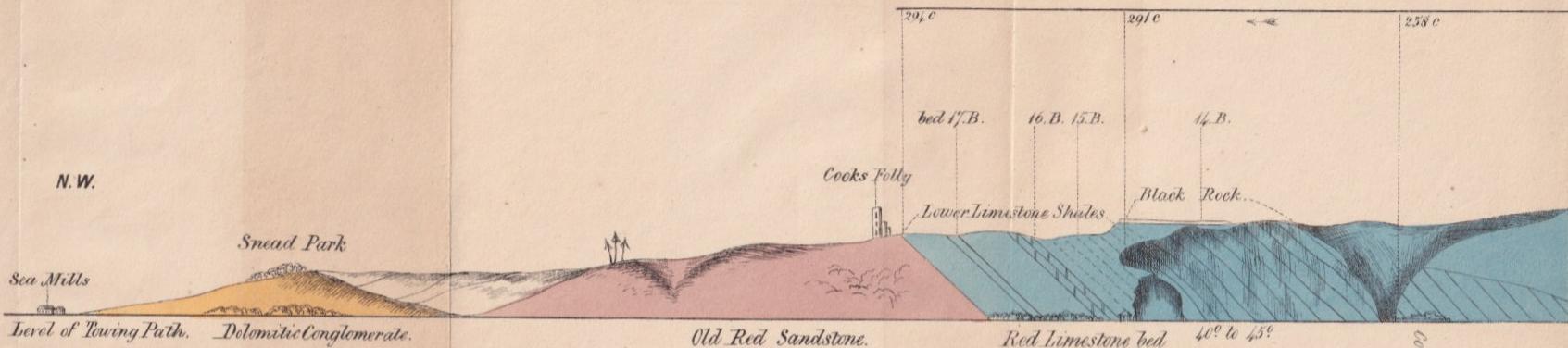
N.B.—Half the size of hazel nut, rubbed over the hands is sufficient to use at a time.

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SECTION OF THE CLIFTON ROCK



■ Old Red Sandstone

■ Limestone Shale and Grit.

■ Mountain or Carboniferous Limestone.

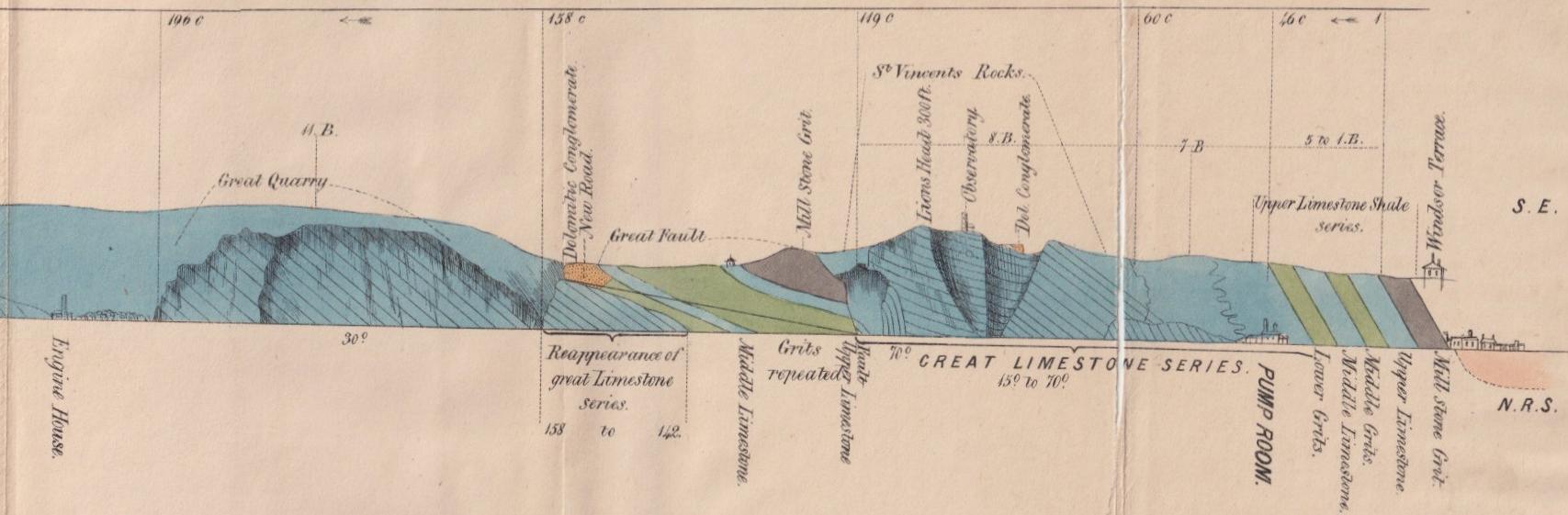
■ Mill Stone Grit.

■ Dolomitic Conglomerate.

■ New Red Sandstone.

*Explanation. — The figures within the dotted vertical lines marked C, refer to the number of beds included between 1 & 46, looking W. and so on throughout the Section. — The Geological Society's "vol. 5, part I." These are too numerous to lay down separately, therefore I divide the series into 17 portions equaling in extent Mr. Cumberland's actions, who divides this great section into 17 portions equaling in extent Mr. Cumberland's throughout the series.*

K S ON THE NORTH SIDE OF THE RIVER AVON, FROM SEA MILLS TO THE HOT WELLS.



ber of beds, according to measurements by G. Cumberland, Esq<sup>r</sup>, 1817, in the Transactions of  
the more prominent and important beds are pointed out. Thus 46, C, I, refers to the  
letter B refers to another and previous paper by D<sup>r</sup> Bright, in Vol. 4, part 2, of the same Trans-  
294 beds.—On referring to the dotted brackets, I to 5, B, equals in extent I to 46, C, and so on

